

Notice of Allowability

Application No.

09/475,946

Examiner

Thuan N. Du

Applicant(s)

POTEGA, PATRICK H.

Art Unit

2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 12/21/2004 and telephone interviewed on 3/7/2005.
2. ☒ The allowed claim(s) is/are 6-9 and 11-29 (renumbered as 1-23).
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☒ to Paper No./Mail Date 9/22/04.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20050309.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


THUAN DU

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Patrick Potega on March 07, 2005.

2. The application has been amended as follows:

In the claim: Please **cancel claims 1-5 and 10** and amend claims 6, 11, 12, 14-16, 19, 20, 23-26 and 29 as follow:

6. A system for selecting and applying a proper operating voltage for a previously undetermined battery-powered device, comprising:

means for sampling battery voltage of the previously undetermined battery associated with said powered device, to produce a sampled battery voltage;

means for providing a reference voltage;

means for comparing said sampled battery voltage and said reference voltage;

means for adjusting said reference voltage and selecting a value of said reference voltage that most closely matches said sampled battery voltage; and

means for powering said powered device from a power source having an output voltage equal to said selected value of said reference voltage in the absence of said battery being connected to said powered device.

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11. An apparatus for applying a power signal to previously undetermined battery-powered device, comprising:

a transportable power-conversion module having two sets of at least two conductors each, the first set terminating at a source of power, and the second set terminating at a connector interface interposed at an I/O port of said device for selectively accessing said device and said battery, said module further including:

a processor/controller for executing program instructions for acquiring information from the previously undetermined battery as the basis for computing a reference voltage for adjusting an output of a configurable regulator;

a user-manipulable selector also for adjusting said regulator to a voltage value;

a visual indicator for prompting a user as to whether a selected value is valid or invalid, based on the processor/controller comparing each selected value to the reference voltage value;

further program instructions for transferring adjusted voltage information from a local non-volatile memory area to an accessible non-volatile memory area associated with the device;

the user having selected a valid voltage value, said processor/controller provides a distinguishable prompt to said user, configures said regulator to output a power signal, and writes voltage value information to said memory area of the device,

whereby the power signal is applied to the now-determined device, and later retrieval of information about the power signal from memory associated with said device eliminates future user manipulation of the selector.

12. The apparatus of Claim 11, further including a second connector located at the module-terminus of said second set of conductors for detaching said conductors from the module as a removable power cord, said memory area being electrically coupled to the conductors either at said connector interface, or at the second connector;

said processor/controller writes said adjusted voltage value to the memory by varying power signals output from said regulator according to a format compatible with the memory, and

by the user later reattaching the now-configured power cord to the apparatus, said processor retrieves the previously stored voltage value from the memory at the second connector, compares the value to voltage values previously stored in said local non-volatile memory, then configures the output of said regulator.

14. The apparatus of Claim 11, wherein said processor/controller writes said adjusted voltage value to an accessible non-volatile memory area at the device, then later retrieves the voltage value from the device's memory when the user reattaches said module to said device and, after comparing the retrieved value to those previously stored in the local memory, said processor/controller configures the output of said regulator.

15. The apparatus of Claim 14, wherein said non-volatile memory area is located in the power-input circuit of the device, so that reattaching said device to the apparatus at its power-input jack provides said processor/controller access to the device's memory area by applying a predetermined power signal from the regulator to the memory, thereby eliminating the need to turn on the device in order to access the memory.

16. The apparatus of Claim 14, further including a modulator/demodulator at both the apparatus and the device for transferring voltage value information by the processor/controller modulating said predetermined power signal along two conductors.

19. The apparatus of Claim 11, wherein the memory area is in the device at a location accessible to the apparatus via the I/O port, and the apparatus further includes program instructions for, upon the user reattaching the apparatus to the I/O port, causing the processor/controller to retrieve from the memory the previously-stored voltage value as the basis for then configuring the output voltage of the regulator, thereby eliminating any user manipulation.

20. The apparatus of Claim 11, further including a spring-driven rotating reel onto which said power cord is retracted and stowed;

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a latching mechanism that prevents the extended cord from inadvertently retracting while in use, the unlatching of which is by the user applying a slight over-extension motion to the already extended cord, then releasing said cord;

a receiving housing for capturing said connector plug so that the plug still remains accessible to the user when the cord is in its fully retracted configuration.

23. An apparatus for applying a power signal to a battery-powered device, comprising:
a module as a battery enclosure of a dimensional size and shape to fit within an existing battery compartment of said device;

a connector interface located along a suitable exterior surface of the enclosure so as to mate with an existing interface in the battery compartment when the enclosure is installed into the battery compartment;

a connector receptacle exposed along an accessible face of the installed enclosure at which a user connects a mateable plug that is electrically coupled at the terminus of at least two conductors directed to a power source;

a processor for executing program instructions;

a memory area for storing power-related information;

an A/D converter accessible to said processor capable of receiving a wide range of input power signals from either AC or DC power sources;

a first regulator for converting input AC power signals to a DC signal that is compatible with the anticipated power-input requirements of the device;

a second regulator for converting input DC power signals to an output signal that is compatible with said power-input requirements, and

at least one energy storage element as a source of power for said device and internal circuitry of the apparatus.

24. An apparatus for applying a power signal to a previously undetermined battery-powered device, comprising:

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a transportable intermediate module for interconnecting between said device and an AC/DC or DC/DC power-conversion peripheral that requires a user to select from a multiplicity of available voltages a valid output voltage for adjusting the power signal to the device;

two sets of at least two conductors each:

the first set being for receiving power signals from the peripheral, the conductors terminating at a user-accessible receptacle for accepting a power-output plug of the peripheral;

the second set being for power output from the module, with conductors terminating at a connector interface interposed at an I/O port of said device, said interface providing selective access to said device and said battery;

a processor/controller including program instructions for acquiring power-related information from the battery as the basis for computing a reference voltage value that is adjusted to optimize said reference voltage value for each specific device, a now-optimized voltage value being written to an area of non-volatile memory;

as the user makes selections, a visual indicator prompts the user as to whether a selected value is valid or invalid, based on the processor/controller acquiring and comparing each distinct power signal received;

said processor/controller also for controlling a switch which prevents any invalid received voltage from passing through the module to the device;

said processor/controller provides a distinguishable prompt to said user after the user having selected a valid voltage value, and then allows the power signal from the peripheral to flow to the device.

25. A system for applying a power signal to at least one of one or more previously undetermined battery-powered devices attached thereto, comprising:

an embedded apparatus having an exposed connector receptacle as a port to which a user connects a device by attaching a compatible connector plug of a power cord, said cord comprised of at least two conductors;

at least two conductors for attaching said apparatus to a power source, and

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said apparatus further comprising:

a processor/controller for executing program instructions;

an A/D converter accessible to said processor/controller for acquiring power signals from the attached device;

a voltage regulator capable of having its output power signals configured by said processor/controller;

a memory area for storing power-related information; and

an indicator capable of varying its visual characteristics, for prompting said user,

whereby the user attaching the device to the power port causes the processor to acquire information about the device's power requirements, so as to configure the controllable regulator to output a power signal compatible with said device, then activating the indicator to prompt the user that the device is being powered.

26. The system of Claim 25, further including in the apparatus a spring-driven rotating reel onto which said power cord is retracted and stowed;

a latching mechanism that prevents the extended cord from inadvertently retracting while in use, the unlatching of which is by the user applying a slight over-extension motion to the already extended cord, then releasing said cord;

a receiving housing for capturing said connector plug so that the plug still remains accessible to the user when the cord is in its fully retracted configuration.

29. The system of Claim 25, further including additional program instructions for acquiring machine readable data that was previously written to a memory area located in said power cord so as to be now accessible to the processor/controller,

whereby retrieving from the memory at the power cord data for determining the power requirements of the device enables the processor/controller to configure said regulator to output the power signal to said device.

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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan N. Du whose telephone number is (571) 272-3673. The examiner can normally be reached on Monday and Wednesday-Friday: 9:30 AM - 8:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (571) 272-3670.

Central TC telephone number is (571) 272-2100.

The fax number for the organization is (703) 872-9306.

4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).



Thuan N. Du
March 9, 2005